

REMARKS

This paper is in response to the Official Action mailed January 21, 2004. Amendments to the specification are made to correct obvious typographical errors. Features of claim 12 have been incorporated into independent claims 1 and 15. Therefore, claim 12 is being cancelled as redundant. The parent claim is now specified in claim 11. Claims 21-22 are being cancelled as being drawn to non-elected species.

With regard to the Information Disclosure Statement filed September 28, 2001, Applicants respectfully submit that both non-English references included a statement per 37 C.F.R. § 1.98(a)(3). A statement as to the relevance of the French reference was supplied in the Remarks section of the transmittal letter accompanying the Form 1443. The Swiss reference in the Italian language was accompanied by an English abstract by a commercial abstracting service. Thus, both non-English references were accompanied by a proper statement as required and Applicants respectfully request that the references be considered.

The drawings stand objected to as lacking certain claimed features, including the pinch valve of claim 4 and the halo fitting of claim 20. FIG. 3 shows a pinch valve 48 and a main slurry pinch valve 42. Support for both of these statements is found on page 9 of the specification. The halo fitting 58 is also found in FIG. 3 and is referenced in the specification on page 12, line 7. Thus, both features objected to are already present in the drawing, identified by numerals and referenced in the specification. No changes to the drawings should be required and Applicants respectfully request that the objection be withdrawn.

Claims 1-20 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

The Examiner has also objected to the term "smooth" in claims 1 and 15. Applicants draw the Examiner's attention to the first paragraph on page 24 of the specification. After reiterating the claim features, it further explains that "[t]he smooth transition is achieved by not only selecting apertures of adjacent components having like inner diameters to form the main fluid passageway 192, but also by supplemental machining or polishing where needed. The ultimate goal is to have no transitions or seams along the whole passageway 192 which may provide a collection site for slurry." From this paragraph, an artisan would be reasonably apprised of the invention, that the "smooth transition" is one where adjacent components have like inner diameters and where the passageway is machined or polished where necessary to eliminate areas where slurry would tend to accumulate and set, causing the passageway to clog.

Claims 1-3, 5, 7, 9 and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Simpson in U.S. Patent No. 5,133,500. Simpson utilizes an additive injector with a foam tube in a marking system for indication the boundaries of areas to be treated with pesticides. Applicant submits that the claims of the present application are not anticipated because the prior art does not have each and every element of Applicants' claims and respectfully traverses the rejection.

Applicants' claims require at least two features that are not taught in the prior art. Simpson does not teach or suggest the use of a static mixer and fails to suggest that the connection points are configured for the smooth transition of fluid and the prevention of at least one of the collection and premature setting of the mixture.

The reference utilizes a foam tube containing a means for converting the marking foam starting mixture into foam. Simpson includes no discussion of mixing in the foam tube, but only states that it can include steel wool, telfon and various foraminous screens and layers of material M. There is no teaching or suggestion that there is turbulence in the foam tube or any other mechanism that would cause mixing. At the mixing control means 70, compressed air is combined with a foaming agent mixture. The nature of the foaming agent is not identified, nor is the mechanism by which the foam is generated. Foam could be generated as a result of a chemical reaction. Some foaming agents, such as polyurethane, spontaneously generate foam upon exposure to air. Thus it is not necessary that there be mixing or turbulence within the foam tube, and absent any teaching to the contrary, there is no reason for one skilled in the art to necessarily assume it.

Further, the Simpson reference does not teach or suggest that the connection points between the inlet, the valve and the foam tube be configured to prevent at least one of the collection and the premature setting of the slurry mixture. This reference does not consider the problems associated with movement of a settable mixture and has no teaching or suggestion that collection or premature setting of the fluid is to be avoided. Gaps or uneven

seams between adjacent parts or fittings provide ideal spaces for a settable fluid to collect and stagnate, where it eventually sets. It then acts to catalyze faster setting of fluid that subsequently passes that gap, leading to additional setting of the fluid and clogging of the apparatus. Since the Simpson reference does not address any special treatment of the connection points, this claim element is absent from the reference and, therefore, the reference cannot anticipate Applicants' claims.

Claims 1-5, 14, 15, 18 and 19 stand rejected as being anticipated by U.S. Patent No. 5,623,995 to Smagac. Applicant respectfully traverses this claim as not containing each and every element of the apparatus in the amended claims.

The amended claims now include a purge input for receiving at least one purge fluid. Smagac does not teach or suggest the use of a purge input. When dispensing foam for marking or firefighting, there is no need to purge the apparatus during use. Even if the foam dries out in the lines by remaining static for a time, the dried foam does not significantly block the fluid path or catalyze further hardening of the foam. When dispensing a sprayable plaster, the calcined gypsum can set up in minutes, completely blocking the fluid passageway. Even if the passageway is only partially blocked, the presence of set gypsum catalyzes the setting reactions, encouraging the flowing slurry to set faster. It is therefore important to be able to purge the apparatus if any slurry has been allowed to remain static in the passageway or if clogging occurs for any other reason. Since Smagac does not disclose this feature, it cannot anticipate the present invention.

Smagac also fails to disclose the smooth connection points between the inlet, the valve and the static mixer. Arguments asserted above are reasserted here. Since Smagac fails to disclose at least two features of the instant claims, it cannot anticipate Applicants' invention.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Simpson. Applicant respectfully traverses this rejection since neither Fig. 4 or Fig. 5 shows the claimed features of Applicant's invention.

Fig. 4 of Simpson shows a spray nozzle 134 that dispenses the foaming agent in a spray pattern "S." The exterior of the nozzle is not tapered in any way, and even appears to have a double edge, making it wider at the spray exit. In order to form a spray pattern, the interior fluid passage inside the nozzle would be constricted in some manner, but not necessarily by tapering. A fan spray pattern could be produced from a straight passageway that terminated at a perforated plate. The perforations need not be tapered to form the spray, only angled outward toward the edges of the plate. Tapering of this nozzle is not inherent, disclosed or obvious. Thus neither the interior nor the exterior of the nozzle of Fig. 4 is tapered. When combined with Fig. 5, the disclosure of Fig. 4 does not render the tapered injector head obvious.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Smagac in view of U.S. Patent No. 6,056,822 to Jefferson. The Jefferson reference discloses a purge inlet and drain to keep a conduit for liquid additives from becoming blocked.

However, Applicant suggests that this disclosure does not render his invention obvious and respectfully traverses the rejection. No *prima facie* case of obviousness has been established because there is no reasonable chance of success and because, even if the proposed change is made, the resulting teaching still does not reveal all features of Applicants' apparatus.

The Examiner admits that Smagac does not reveal the purge input. Although Jefferson uses a purge line, it is located on a liquid line. Purging liquids with air is relatively easy because liquids flow when force is applied. However, in the instant application, purging is necessary when the plaster slurry begins to set up and form calcium sulfate dihydrate crystals. Not only are solids formed, but they form an interlocking matrix of crystals that are relatively strong. Jefferson has no teaching or disclosure, nor would it be obvious, that the purge would be effective on a solid crystalline structure that has set and stuck to the internal passages of the apparatus. The teaching of Jefferson may make it obvious to try a high pressure purge in the slurry line, but it is not clear that it would be successful. In combining references, the problem considered by the Applicant must be considered. Thus there is no reasonable chance of success even if these references were combined.

In addition, neither reference teaches or suggests that the purge input be moved from the liquid line to the passageway of the settable mixture. Using the teaching of Jefferson, one skilled in the art would have a purge line on one of the liquid components, but vent the excess pressure to drain before mixing the liquid with the solid. This would not be useful in the instant apparatus to clear set gypsum particles from the slurry passageway.

Since neither reference suggests the location of the purge inlet to flush the passageway for a settable mixture, even the combination of references does not disclose every element of Applicant's invention.

Without a reasonable chance of success and where both references fail to disclose at least one claimed feature of the invention, the Examiner has failed to establish a *prima facie* case of obviousness.

Applicants respectfully suggest that in the outstanding Action, the rejections evidence "picking and choosing" features of various references and combining them when there is no suggestion in those references to do so. It is impermissible within the framework of a 35 U.S.C. § 103 rejection to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. Furthermore, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. Teachings of references can be combined only if there is some suggestion or incentive to do so.

Applicant submits that all the issues raised in the outstanding Official Action have been addressed and respectfully requests that the rejections be withdrawn and the subject application be allowed to issue. In the event the Examiner finds that there are

additional issues that may be resolved by a telephone conference, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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